

Hydrologic Forecast for Augusta/Elk Creek

CONDITIONS 06/01/2020

Lewis & Clark County Water Quality Protection District

SUMMARY

Elk Creek is a non-gauged stream, therefore regional USGS gauging stations 0608220 (Sun River below Willow Cr), 06079000 (South Fork Sun River near Augusta MT) and 06073500 (Dearborn River at Craig) are used as surrogates to evaluate the timing of spring runoff and may be used to track rising river stage in the area.

Since peaking on May 21st from a significant rain event that moved through the region, flows on many area streams have dropped. Warmer than average temperatures over the past week have accelerated loss of snowpack at higher elevations. Stream response to this warmer weather and loss of snowpack has been variable with the Dearborn River holding steady at about 1,000 CFS, and the South Fork Sun River seeing a flow increase from these conditions. With similar but cooler conditions over the next week, stream response could be similar to those experienced over the past week as higher-elevation snowpack melts.

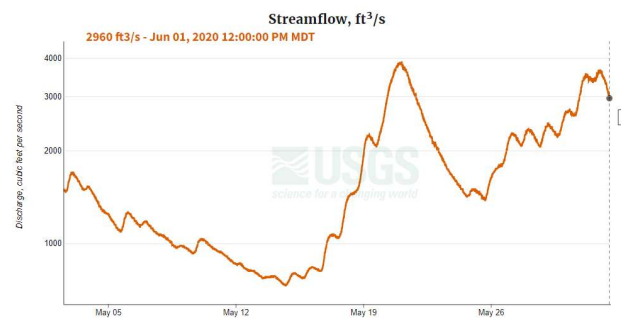
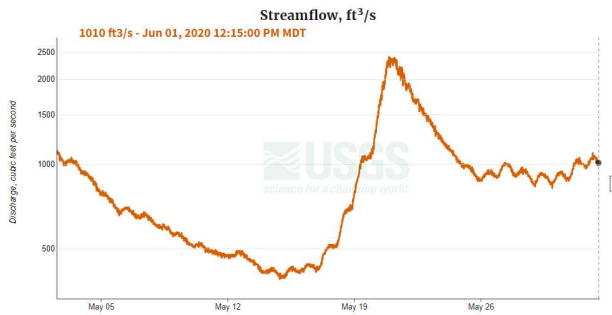
It is possible that segments of Elk Creek may experience unpredictable response to high-water events due to infrastructure damage and/or channel disruptions from the events of 2018 and 2019.

The following data and information are used to assess hydrologic conditions in the Elk Creek drainage.

1. Surrogate **streamflow**
<https://waterdata.usgs.gov/monitoring-location/06082200>
<https://waterdata.usgs.gov/monitoring-location/06079000>
<https://waterdata.usgs.gov/monitoring-location/06073500>
 2. **Snowpack** snow water equivalent (SWE) at the Wood Creek SNOTEL Station west of Augusta
<https://www.nwrfc.noaa.gov/snow/snowplot.cgi?WODM8>
 3. Short-term Augusta 5-day weather (**precipitation and temperature**) projection from the National Weather Service
<https://forecast.weather.gov/MapClick.php?lat=47.4927&lon=-112.3938#.XpooZUZKjGg>
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1. STREAMFLOW

Streamflow at the South Fork Sun River and the Dearborn River over the past 30 days is shown below. Note May 21st peak from recent precipitation, and flow response from recent warm weather.



2. SNOWPACK (SWE)

Snowpack at Wood Creek Snotel station is gone and its unclear how much snow remains at higher elevations west of Augusta. The response of the South Fork Sun River (N of Elk Creek) over the past week shows acceleration of snowpack melting and runoff raising streamflow significantly, while the Dearborn river (S of Elk Creek) has remained steady at around 1,000 CFS over the past week.

3. WEATHER

Monday through next Friday... Seasonal temperatures with the possibility of showers and potentially strong isolated thunderstorms.